METHOD FOR ASSAYING CLUSTERED DNA DAMAGES

Abstract of the Disclosure

Disclosed is a method for detecting and quantifying clustered damages in DNA. In this method, a first aliquot of the DNA to be tested for clustered damages with one or more lesion-specific cleaving reagents under conditions appropriate for cleavage of the DNA to produce single-strand nicks in the DNA at sites of damage lesions. The number average molecular length (Ln) of double stranded DNA is then quantitatively determined for the treated DNA. The number average molecular length (Ln) of double stranded DNA is also quantitatively determined for a second, untreated aliquot of the DNA. The frequency of clustered damages (Φ_c) in the DNA is then calculated.